



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 80

[EPA-HQ-OAR-2012-0223; FRL-9763-7]

Regulation of Fuels and Fuel Additives: Modifications to the Transmix Provisions Under the Diesel Sulfur Program

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is amending the requirements under EPA's diesel sulfur program related to the sulfur content of locomotive and marine (LM) diesel fuel produced by transmix processors and pipeline facilities. These amendments will reinstate the ability of locomotive and marine diesel fuel produced from transmix by transmix processors and pipeline operators to meet a maximum 500 parts per million (ppm) sulfur standard outside of the Northeast Mid-Atlantic Area and Alaska and expand this ability to within the Northeast Mid-Atlantic Area provided that: the fuel is used in older technology locomotive and marine engines that do not require 15 ppm sulfur diesel fuel, and the fuel is kept segregated from other fuel. These amendments will provide significant regulatory relief for transmix processors and pipeline operators to allow the petroleum distribution system to function efficiently while continuing to transition the market to virtually all ultra-low sulfur diesel fuel (ULSD, i.e. 15 ppm sulfur diesel fuel) and the environmental benefits it provides.

DATES: This rule is effective on [insert date 60 days after the date of publication in the Federal Register] without further notice.

ADDRESSES: EPA established a docket for this action under Docket ID No. EPA-HQ-OAR-2012-0223. All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information may not be publicly available, (e.g., CBI or other information whose disclosure is restricted by statute). Certain other material, such as copyrighted material, will be publicly available only in hard copy.

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SUPPLEMENTARY INFORMATION:

I. Executive Summary

A. Purpose

EPA is issuing a final rule to amend provisions in the diesel sulfur fuel programs. The diesel sulfur amendments provide necessary flexibility for transmix processors and pipeline operators who produce locomotive and marine diesel fuel. EPA is taking this action under section 211 of the Clean Air Act.

B. Summary of Today's Rule

The diesel transmix amendments will reinstate an allowance for transmix processors and pipeline operators to produce 500 ppm sulfur diesel fuel for use in older technology locomotive and marine diesel outside of the Northeast Mid-Atlantic (NEMA) Area and Alaska after 2014.¹ These provisions were originally put in place as a necessary flexibility to address feasibility and cost issues associated with handling of the transmix volume generated in the pipeline distribution system. These provisions allowed the fuel distribution system to continue to function while transitioning to ULSD. The technology to economically reduce the sulfur content of transmix distillate product to 15 ppm at transmix processor and pipeline facilities did not exist, and any alternative measures of disposing of transmix were likewise deemed infeasible or cost prohibitive as the market was then configured. Thus, in order to implement the ULSD regulations, an outlet for the consumption of transmix distillate product was necessary. With no outlet, transmix would build up in storage tanks and pipelines would need to cease operations. When the ULSD standards were expanded to nonroad, locomotive, and marine (NRLM)

¹ The NEMA area is defined in 40 CFR 80.510(g)(1) as follows: North Carolina, Virginia, Maryland, Delaware, New Jersey, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, Maine, Washington DC, New York (except for the counties of Chautauqua, Cattaraugus, and Allegany), Pennsylvania (except for the counties of Erie, Warren, McKean, Potter, Cameron, Elk, Jefferson, Clarion, Forest, Venango, Mercer, Crawford, Lawrence, Beaver, Washington, and Greene), and the eight eastern-most counties of West Virginia (Jefferson, Berkeley, Morgan, Hampshire, Mineral, Hardy, Grant, and Pendleton).

diesel fuel, this would have removed the sole outlet in most areas of the country.

Consequently, the transmix flexibility was finalized.

EPA's ocean-going vessels rule, however, removed this allowance beginning 2014 to streamline our ULSD compliance provisions and avoid additional complications that would otherwise result from adding a new stream of diesel, containing up to 1,000 ppm sulfur, for category 3 (C3) marine. EPA believed at the time that this new 1,000 ppm sulfur product could provide a suitable outlet for transmix distillate product. Thus, we believed that it was possible to remove the transmix flexibility. Transmix processors stated that they were not aware of the changes to the 500-ppm LM transmix provisions until after they were finalized, and that the C3 marine market would not be a viable outlet for their distillate product. Not only are most locations for refueling C3 marine vessels not located near transmix facilities, but C3 marine terminals also do not lend themselves easily to the receipt of small batches of transmix distillate product by tank truck. It might be possible over time to modify C3 terminals and fueling operations to receive transmix, but such changes were not within their control. Until such time, the locomotive and marine diesel market remained the only viable market.

On June 29, 2010, EPA received a petition from a group of transmix processors requesting that the Agency reconsider and reverse the 2014 sunset date for the 500-ppm LM transmix flexibility. Based on additional input that we received from transmix processors and other stakeholders in the fuel distribution system during our consideration of the petition, EPA believed that it would be appropriate to extend the 500-ppm diesel transmix flexibility for older locomotive and marine engines beyond 2014 for reasons discussed below. On October 9, 2012, EPA published in the Federal Register a Direct

Final Rule (DFR) and parallel Notice of Proposed Rule (NPRM).² The DFR and NPRM also included other provisions not relevant to this final rule. The DFR was withdrawn on this issue due to the receipt of a negative comment.³ Based on EPA's consideration of the comments on the NPRM, EPA is finalizing the proposal to extend the 500-ppm transmix flexibility outside of the NEMA area and Alaska beyond 2014.

In response to industry input, EPA also requested comments in the NPRM on whether the 500-ppm transmix flexibility should be extended to the NEMA area. Based on EPA's consideration of the comments we received, we are extending the transmix flexibility to within the NEMA area beginning with the effective date of this final rule.

Comments on the NPRM stated that the regulations did not provide adequate certainty that pipeline operators as well as transmix processors may produce 500 ppm LM from transmix. Based on these comments we are amending the regulations to provide clarity regarding EPA's long standing policy that pipeline operators as well as transmix processors may take advantage of the 500-ppm LM transmix flexibility.

C. Costs and Benefits

The flexibilities promulgated in this rule will provide a feasible and cost effective means for the continued operation of the fuel distribution system under our ULSD program regulations as the locomotive and marine market transitions to equipment that require the use of ULSD and until such time as alternative methods of treatment or disposal for transmix can be developed. These amendments will impose no new direct

² Regulation of Fuels and Fuel Additives: Modifications to Renewable Fuel Standard and Diesel Sulfur Programs, Direct final rule, 77 FR 61281, October 9, 2012. Regulation of Fuels and Fuel Additives: Modifications to Renewable Fuel Standard and Diesel Sulfur Programs, Notice of Proposed Rule, 77 FR 61313, October 9, 2012.

³ Regulation of Fuels and Fuel Additives: Modifications to Renewable Fuel Standard and Diesel Sulfur Programs, Withdrawal of direct final rule, 77 FR 72746, December 6, 2012.

costs or burdens on regulated entities beyond the minimal costs associated with reporting and recordkeeping requirements. These amendments will provide significant regulatory relief for transmix processors and pipeline operators to allow the petroleum distribution system to function efficiently while continuing to transition the market to virtually all ultra-low sulfur diesel fuel (ULSD, i.e. 15 ppm sulfur diesel fuel) and the environmental benefits it provides.

II. Does This Action Apply to Me?

Entities potentially affected by this action include those involved with the production, distribution and sale of diesel fuel. Regulated categories and entities affected by this action include:

Category	NAICS Codes ^a	SIC Codes ^b	Examples of Potentially Regulated Parties
Industry	324110	2911	Petroleum refiners.
Industry	Various	Various	Transmix processors.
Industry	486910	4613	Refined petroleum product pipelines.
Industry	424710	5171	Petroleum bulk stations and terminals.
Industry	424720	5172	Petroleum and petroleum products merchant wholesalers.
Industry	454319	5989	Other fuel dealers.

^aNorth American Industry Classification System (NAICS).

^bStandard Industrial Classification (SIC) system code.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is now aware could be potentially regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your entity

is regulated by this action, you should carefully examine the applicability criteria of Part 80, subparts D, E and F of title 40 of the Code of Federal Regulations. If you have any question regarding applicability of this action to a particular entity, consult the person in the preceding “FOR FURTHER INFORMATION CONTACT” section above.

III. Amendments to the Diesel Transmix Provisions

The final regulations for the nonroad diesel program were published in the *Federal Register* on June 24, 2004.⁴ The provisions in the nonroad diesel rule related to diesel fuel produced from transmix by transmix processors and pipeline operators were modified by the C3 Marine diesel final rule that was published on April 30, 2010.⁵ This action further amends the requirements for diesel fuel produced from transmix by transmix processors and pipeline operators. Below is a table listing the provisions that we are amending. The following sections provide a discussion of these amendments.

Proposed Amendments to the Diesel Program Section:	Description
80.511(b)(4)	Amended to allow for the production and sale of 500 ppm locomotive and marine (LM) diesel fuel produced from transmix past 2014.
80.513 (entire section)	Amended to allow for the production and sale of 500 ppm LM diesel fuel produced from transmix outside the NEMA area and Alaska past 2014, to extend this flexibility to within

⁴ 69 FR 38958 (June 24, 2004).

⁵ 75 FR 22896 (April 30, 2010).

	the NEMA area, and to provide additional clarity regarding the production of 500 ppm LM from transmix by pipeline operators.
80.572(d)	Amended to extend 500ppm LM diesel fuel label past 2012.
80.597(d)(3)(ii)	Amended to include 500 ppm LM diesel fuel in the list of fuels that an entity may deliver or receive custody of past June 1, 2014.

**A. Extension of the Diesel Transmix Provisions Outside of the Northeast
Mid-Atlantic Area and Alaska Beyond 2014**

Batches of different fuel products commonly abut each other as they are shipped in sequence by pipeline. When the mixture between two adjacent products is not compatible with either product, it is removed from the pipeline and segregated as transmix. Transmix primarily is gathered for reprocessing at the end of the pipeline distribution system and downstream from any refinery that might possibly be able to desulfurize the transmix. Transmix is also sometimes gathered at intermediate points in the pipeline distribution system. In addition to the long and inefficient transportation distances to return transmix to a refinery for reprocessing, incorporating transmix into a refinery's feed also presents technical and logistical refining process challenges that typically make refinery reprocessing infeasible. In particular, refineries are not set up to safely receive small batches of feedstock by truck, crude towers are not designed to safely handle the large swings in distillation range of their feed that would accompany the introduction of transmix to the tower, and other locations in the refinery (such as

hydrodesulfurization units) are not designed to safely receive additional feedstock. Thus, transmix processors and pipeline facilities that produce diesel fuel from transmix are necessary to dispose of transmix and maintain an efficient fuel distribution system. However, they can only do so if they can find a market that can utilize the transmix they produce.

Transmix processing facilities handle an average of 5,000 barrels per day of transmix compared to an average of 125,000 barrels per day of crude oil for diesel fuel refineries. The low volumes handled by transmix processors as well as other constraints mean that transmix processors are limited to the use of a simple distillation tower and additional blendstocks to manufacture finished fuels. Pipeline transmix gathering facilities handle even lower volumes of fuel. Such facilities manufacture diesel fuel from the transmix that results from the interface between batches of ULSD and jet fuel. The presence of diesel fuel in the mixture results in the transmix not meeting the stringent quality specifications for jet fuel (e.g., distillation and additive requirements unique to jet fuel). Because this transmix does not contain gasoline, a finished distillate fuel from the transmix can be produced without the need for further distillation. However, the high sulfur contribution from jet fuel (e.g., maximum 3,000 ppm for jet fuel) and other high sulfur products in multi-product pipelines results in this transmix not meeting the 15 ppm sulfur specification for ULSD. There is currently no desulfurization equipment which has been demonstrated to be suitable for application at a transmix processor or pipeline transmix gathering facility. The cost of installing and operating a currently available desulfurization unit is too high in relation to the small volume of distillate fuel produced

at such facilities. Without an outlet for the transmix, it would build up and could eventually force a shutdown of pipeline operations until an outlet could be found.

The engine emission standards finalized in the rulemakings for new nonroad, locomotive, and Category 1 & 2 (C1 & C2) marine engines necessitate the use of sulfur-sensitive emissions control equipment which requires 15 ppm sulfur diesel fuel to function properly.⁶ Accordingly, the nonroad rule required that nonroad, locomotive and marine (NRLM) diesel fuel must meet a 15 ppm sulfur standard in parallel with the introduction of new sulfur-sensitive emission control technology to NRLM equipment. Beginning June 1, 2014, the nonroad diesel rule required that all NRLM diesel fuel produced by refiners and importers must meet a 15 ppm sulfur standard. The nonroad diesel rule included special provisions to allow the continued use of 500 ppm sulfur locomotive and marine diesel fuel produced from transmix by transmix processors and pipeline operators beyond 2014 in older technology engines as long as such engines remained in the in-use fleet. These provisions along with other now expired flexibilities in the diesel program were designed to provide a feasible and cost effective means for the continued operation of the fuel distribution system under our ULSD program regulations as the locomotive and marine market transitioned to equipment that required the use of ULSD and until such time as alternative methods of treatment or disposal of transmix could be developed.⁷ The 500-ppm LM diesel transmix provisions were limited to areas

⁶ Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel, Final Rule, 69 FR 38958, June 24, 2004. Control of Emissions of Air Pollution From Locomotive and Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder; Republication, Final Rule, 73 FR 37096, June 30, 2008.

⁷ As discussed in the original nonroad diesel rulemaking, as LM equipment is retired from service, the market for 500 ppm LM will gradually diminish and eventually disappear. Given the long lifetime of LM equipment (in many cases 40 years or more), we anticipate that a market for 500 ppm LM will remain for a significant amount of time. This phase-out time will allow transmix processors and pipeline operators to either transition their >15 ppm sulfur distillate product to other markets (e.g. C3 marine, heating oil,

outside of the Northeast Mid-Atlantic area and Alaska because it was judged that the heating oil market in these areas would provide a sufficient outlet for transmix distillate in these areas. In addition, the disposition of transmix in Alaska is not a concern since there are no refined product pipelines in Alaska. Excluding the NEMA area and Alaska allowed us to exempt the NEMA area and Alaska from the fuel marker provisions that are a part of the compliance assurance regime. The continuation of the 500-ppm LM diesel transmix provisions beyond 2014 (finalized in the nonroad rule) was supported by ongoing recordkeeping, reporting, and fuel marker provisions that were established to facilitate enforcement during the phase-in of the diesel sulfur program.⁸

In the development of the proposed requirements for Category 3 (C3) marine engines, EPA worked with industry to evaluate how the enforcement provisions for the new 1,000-ppm C3 marine diesel fuel to be introduced in June of 2014 could be incorporated into existing diesel program provisions.⁹ Our assessment based on input from industry at the time indicated that incorporating the new C3 marine fuel into the diesel program enforcement mechanisms while preserving the 500-ppm diesel transmix flexibility could not be accomplished without retaining significant existing regulatory burdens (“designate and track” and fuel marker requirements) and introducing new burdens on a broad number of regulated parties. We also believed that the new C3 marine diesel market would provide a sufficient outlet for transmix distillate product in place of the 500 ppm LM diesel market. Thus, we believed the 500-ppm LM diesel

process heat, export), develop a means to desulfurize fuel at their facilities, or to implement other alternatives to dispose of transmix.

⁸ This included the now-completed phase-in of 15 ppm highway diesel fuel and 15 ppm nonroad diesel fuel as well as the phase-out of the small refiner and credits provisions for LM diesel fuel that will be completed in 2014.

⁹ Control of Emissions From New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder; Proposed Rule, 74 FR 44442 (August 28, 2009).

transmix flexibility would no longer be needed after 2014. Hence, we requested comment on whether we should eliminate the 500-ppm LM transmix provisions in parallel with the implementation of the C3 marine diesel sulfur requirement. This approach allowed for a significant reduction in the regulatory burden on a large number of industry stakeholders through the retirement of the diesel program's designate-and-track and fuel marker requirements. All of the comments that we received on the proposed rule were supportive of the approach. Consequently, we finalized the approach in the C3 marine final rule that was published on April 30, 2010.¹⁰

EPA received a petition from a group of transmix processors on June 29, 2010, requesting that the Agency reconsider and reverse the 2014 sunset date for the 500-ppm LM transmix flexibility.¹¹ A parallel petition for judicial review was filed with the U.S. Court of Appeals, D.C. Circuit.¹² The transmix processors stated that they were not aware of the changes to the 500-ppm LM transmix provisions until after they were finalized. The petitioners also stated that they believe that the C3 marine market would not be a viable outlet for their distillate product. Not only are most locations for refueling C3 marine vessels not located near transmix facilities, but C3 marine terminals also do not lend themselves easily to the receipt of small batches of transmix distillate product by tank truck. It might be possible over time to modify C3 terminals and fueling operations

¹⁰ Control of Emissions From New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder; Final Rule, 75 FR 22896 (April 30, 2010).

¹¹ "Petition to Reconsider Final Rule: Control of Emissions from New Marine Compression Ignition Engines at or Above 30 Liters per Cylinder; Final Rule," 75 FR 22,896 (April 30, 2010), Letter to EPA Administrator Lisa Jackson dated June 29, 2010, from Chet Thompson of Crowell and Moring LLP, on behalf of Allied Energy Company, Gladieux Trading and Marketing, Insight Equity Acquisition Partners, LP, Liquid Titan, LLC, and Seaport Refining and Environmental, LLC.

¹² Petition for Review, United States Court of Appeals for the District of Columbia Circuit, Petitioners, *Allied Energy Company, Gladieux Trading and Marketing, Insight Equity Acquisition Partners, LP, LiquidTitan, LLC, and Seaport Refining and Environmental LLC, v. Respondent*, U.S. Environmental Protection Agency, Case 10-1146, Document 1252640, Filed 06/29/2010.

to receive transmix, but such changes were not within their control. Until such time the locomotive and marine diesel market remained the only viable market. Based on the additional input that we received from transmix processors and other stakeholders in the fuel distribution system during our consideration of the petition and the comments on the NPRM, EPA believes that it is appropriate to reinstate the 500-ppm diesel transmix flexibility beyond 2014.¹³

These amendments will provide significant regulatory relief for transmix processors and pipeline operators to allow the petroleum distribution system to function efficiently while contributing to transition the market to virtually all ultra-low sulfur diesel fuel (ULSD, i.e. 15 ppm sulfur diesel fuel) and the environmental benefits it provides. Reinstating this transmix flexibility will provide a feasible and cost effective means for the continued operation of the fuel distribution system under our ULSD program regulations as the locomotive and marine market transitioned to equipment that required the use of ULSD and until such time as alternative methods of treatment or disposal for transmix can be developed. As the locomotive and marine engine fleet turns over to equipment that require the use of ULSD, this flexibility will naturally phase out.¹⁴ Providing additional time for transmix processors and pipeline operators will allow them to develop other markets for transmix, including perhaps the C3 marine market, export, or perhaps treatment technology. Therefore, extending this flexibility would reduce the overall burden on industry of compliance with EPA's diesel sulfur program and facilitate

¹³ See Section IV of today's notice for our summary and analysis of comments.

¹⁴ The useful life of LM engines can exceed 40 years. In the 2011 edition of "Railroad Facts," the Association of American Railroads reported that in 2010 approximately 35% of the locomotive fleet was at least 21 years old.

a smoother transition of the entire market to ULSD. EPA will consider removing the 500-ppm transmix flexibility when it appears that it no longer serves a purpose.

B. Expansion of the Diesel Transmix Provisions to Include the Northeast Mid-Atlantic Area

The nonroad diesel rule specified that the small diesel refiner, credit, and transmix provisions would not apply in the Northeast Mid-Atlantic area. Hence, all LM diesel fuel shipped from refineries, transmix processors, and importers for use in the NEMA area was required to meet a 15-ppm sulfur standard beginning June 1, 2012 when the 15-ppm standard becomes effective for large refiners and importers.¹⁵ This approach allowed the NEMA area to be exempted from fuel marker provisions that are a component of the compliance assurance provisions associated with the small diesel refiner, credit, and transmix provisions. As discussed previously a significant factor in the decision made in the nonroad diesel rule to exclude the NEMA from the diesel transmix provisions was our assessment that the heating oil market provided a sufficient outlet for transmix distillate product in this area. Since the publication of the nonroad diesel rule in 2004, a number of states in the NEMA area have moved towards implementing a 15-ppm sulfur standard for heating oil. A significant fraction of heating oil in the area will be subject to a 15-ppm sulfur standard beginning in 2012, and it is likely that other states will adopt a 15-ppm sulfur standard for heating oil in the following years.

Transmix processors and other fuel distributors in the NEMA area stated that they were concerned that the changing state heating oil specifications would impact their

¹⁵ LM diesel fuel in terminals located in the NEMA area is subject to a 15-ppm sulfur standard beginning August 1, 2012. LM diesel fuel at retailers and wholesale purchaser consumers must meet a 15-ppm sulfur standard beginning October 1, 2012.

ability to market transmix distillate product beginning in 2012. They requested that EPA extend the 500-ppm LM flexibility to the NEMA area by 2012 to lessen the impact on the fuel distribution system of complying with more stringent federal and state distillate sulfur standards. Consequently, we requested comment in the NPRM on expanding the 500-ppm LM transmix flexibility to include the NEMA area. Based on our review of the comments on the NPRM, today's final rule expands the 500-ppm transmix flexibility to include the NEMA area beginning on the effective date of today's rule.¹⁶

Allowing 500-ppm LM from transmix to be used outside of the NEMA area after 2014 reinstates a flexibility that was withdrawn by the C3 marine final rule. Allowing 500-ppm LM to be used inside the NEMA area provides flexibility that was previously not included in EPA's diesel program to offset a portion of the flexibility lost with the transition to ultra-low sulfur heating oil in the NEMA. This will serve to allow the ULSD and ultra-low sulfur heating oil provisions to continue to be successfully implemented and maintain the integrity of the petroleum distribution system. Otherwise, as in the discussion for outside the NEMA above, without a practical outlet for the sale/disposal of transmix, the pipeline distribution system which provides much of the fuel to the NEMA could not continue to function.

Expanding the transmix flexibility to the NEMA area will provide significant regulatory relief for transmix processors and pipeline operators to allow the petroleum distribution system to function efficiently while continuing to transition the market to virtually all ultra-low sulfur diesel fuel (ULSD, i.e. 15 ppm sulfur diesel fuel) and the environmental benefits it provides. The same compliance assurance requirements that we are finalizing for use outside of the NEMA area will be applied within the NEMA area.

¹⁶ See Section IV in today's notice for the summary and analysis of comments.

A substantial fraction of the transmix processing industry markets fuel within the NEMA area. Thus, the additional time to prepare for a transition to other markets for transmix distillate product that is afforded by the extension of the 500-ppm LM transmix flexibility to the NEMA is particularly significant.

C. Transmix Flexibility Emission Effects

It is difficult to assess the environmental consequences of the diesel transmix provisions finalized by today's action because it is difficult to know how the market would function without today's action. Based on the feedback received, desulfurization of transmix at either transmix facilities or refineries is not currently viable and the C3 marine and other potential markets are not set up to handle the receipt and use of transmix. Thus, while it is possible to assess the emission impacts associated with the use of transmix in lieu of ULSD in locomotive and marine applications, it is difficult to know what the baseline for comparison would be, as all other options at present appear infeasible. Nevertheless, in order to provide an estimate of the potential emission impacts we have conservatively modeled a base case where we assume, as in the C3 marine final rule, that the diesel transmix could in fact be consumed in the C3 market. Other possible assumptions (e.g., export, shipped to a refinery for reprocessing) would only add transport distance, increasing the emissions in the base case.

Thus, to evaluate the environmental consequences of the diesel transmix provisions finalized by today's notice, we compared the potential increase in emissions of sulfate particulate matter (PM) and sulfur dioxide (SO₂) from the use of 500 ppm LM from transmix in older engines to the additional transportation emissions associated with

shipment of transmix to the Category 3 (C3) marine market which might be avoided by allowing continued access to the 500 ppm LM market. Markets for locomotive and marine diesel tend to be nearer to transmix processing facilities than markets for C3 marine diesel.¹⁷ Therefore, the diesel transmix provisions in today's rule will result in a reduction in nitrogen oxides (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO), PM, and toxics as well as other emissions that would otherwise be associated with transporting diesel transmix to the more distant markets.

We estimate that approximately 450 million gallons of distillate fuel per year is produced from transmix.¹⁸ However, some of this transmix distillate product would continue to be used as heating oil regardless of whether the diesel transmix provisions were finalized as long as some of that market remained higher than 15 ppm. Given that today's rule includes provisions to expand the transmix flexibility to the NEMA area where the majority of heating oil is used, we estimate that as much as 337 million gallons per year of transmix distillate product might be used in older LM engines initially, and then decline over time as the locomotive and marine diesel fleet transitions to engines requiring ULSD.¹⁹ An estimated 6,994 million gallons of diesel fuel was estimated to be

¹⁷ Transmix processing facilities are located at downstream locations on refined petroleum product pipelines. Such pipeline locations are typically not located close to the coasts where a C3 market exists. A number of such locations are located in the center of the United States. Locomotive refueling facilities are located throughout the United States and C2 marine refueling locations are located on navigable rivers as well as on the coasts.

¹⁸ Based on information provided by transmix processors, we estimate that approximately 750 million gallons per year of transmix is produced annually, approximately 60% of the transmix-derived product is distillate fuel, and the remainder is gasoline.

¹⁹ We estimate that approximately 50 percent of diesel transmix is produced by pipelines that serve the NEMA area. We believe that it is reasonable to assume that 50 percent of the diesel transmix within the NEMA area will continue to be used as heating oil despite access to the LM market. Thus, we estimate that 25 percent of all diesel transmix will continue to be used in heating oil.

used in locomotive and marine engines in 2004.²⁰ Thus, the volume of transmix distillate product that may be used in LM engines represents at most 4.8% of the total diesel fuel use in such engines. Although some batches of diesel transmix may approach the 500 ppm sulfur limit, the average sulfur content is considerably less. Comments on the NPRM stated that the sulfur content of diesel transmix is often 100 ppm to 200 ppm. Based on these comments, we have assumed for this analysis that the sulfur content of diesel transmix will average about 150 ppm. When burned in non-catalyst equipped engines, the vast majority (approximately 98 percent) of sulfur in diesel fuel comes out of the exhaust as SO₂, with the remainder coming out as H₂SO₄ (sulfate PM). Thus, as shown in Table 1, SO₂ emissions from locomotive and marine diesel engines would be expected to rise nationwide by approximately 321 tons, and sulfate PM emissions by about 26 tons.

At the same time, emissions from highway diesel engines would be expected to decline due to the reduced distances associated with transporting diesel transmix to locomotive and marine diesel terminals instead of C3 marine terminals. Based on an assessment of the locations of potential C3 marine outlets as opposed to locomotive and marine outlets, and based on comments we received on the proposal, we estimate that allowing the use of transmix in the locomotive and marine diesel market would decrease trucking distances by an average of approximately 250 miles (one way). In reality trucking distances and associated emissions could be considerably higher in order to reach a refinery that might be reconfigured to process transmix, or to be exported. Based on an assumed capacity for a transport truck of 8,000 gallons of transmix distillate, and

²⁰ Regulatory Impact Analysis: Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder, EPA420-R-08-001, February 2008.

EPA's emission factors for transport trucks, as shown in Table 1, allowing diesel transmix to continue to be burned in the older locomotive and marine applications thereby resulting in deferred additional truck transport of transmix distillate would decrease nationwide emissions of NO_x by 194 tons, VOC by 19 tons, CO by 58 tons, PM_{2.5} by 7 tons, SO₂ by less than one ton, and small reductions in various air toxic emissions.²¹

²¹ The deferred additional truck transport would also avoid the production of 47,380 tons of CO₂ emissions. An additional 4,220 thousand gallons of diesel fuel would be consumed to support the increased truck transport with an associated increase in diesel fuel costs of 17 million dollars

Table 1: Nationwide Annual Emissions Effects

	Emissions Effects From Use of TDP Instead of ULSD in Older LM Engines (short tons)	Emission Effects From Avoided Transport of TDP (short tons)	Net Emissions Effects of the Transmix Flexibility (short tons)	ULSD Programs Emissions Effects (short tons)	Transmix Flexibility Emissions Effects as Percentage of Emission Effects of ULSD Programs
NO _x	0	- 194	- 194	- 4,023,162	- 0.005%
VOC	0	- 19	- 19	- 160,350	- 0.012%
CO	0	- 58	- 58	- 1,912,706	- 0.003%
PM	+ 26	- 7	+ 19	- 264,492	+ 0.007%
SO ₂	+ 321	- 0.35	+ 321	- 516,269	+ 0.062%
Benzene	0	- 0.19	- 0.19	- 2,330	- 0.008%
Formaldehyde	0	- 1.45	- 1.45	- 16,816	- 0.009%
Acetaldehyde	0	- 0.53	- 0.53	- 6,887	- 0.008%
1,3-Butadiene	0	- 0.11	- 0.11	- 882	- 0.012%
Acrolein	0	- 0.06	- 0.06	- 200	- 0.030%

As can be seen from Table 1, the diesel transmix provisions being finalized today provide on balance small reductions in emissions of NO_x, VOC, CO, and toxics and small net increases in PM and SO₂. These emission effects will decline over time as the potential market for 500 ppm LM diminishes and eventually disappears. Since this final rule is taking an action to allow the ULSD program to be feasibly implemented, the emissions effects of this action must be viewed in the context of the overall ULSD regulations that this FRM is part of. As further shown in Table 1, the net emission impacts of all pollutants of this action is very small and we believe will have a very small impact in comparison to the benefits of the entire ULSD program that is enabled by today's action. The annual emissions reductions achieved by EPA's ULSD regulations are enormous compared to the effects of this rulemaking. Thus, the clean diesel programs will be providing very large emissions benefits which are little affected by the transmix flexibility. This transmix flexibility was judged to be a necessary component of the clean diesel program when it was finalized. Therefore, it is appropriate that the transmix flexibility be reinstated and expanded to the NEMA area. The use of 500 ppm LM from transmix would be limited to older technology engines that do not possess sulfur-sensitive emissions control technology. We believe that the 500 ppm LM segregation and other associated requirements would prevent misfueling of sulfur-sensitive engines.

D. Compliance Assurance Provisions

Industry stakeholders suggested alternative enforcement mechanisms to support the extended flexibility which would not necessitate reinstating and expanding the

designate-and-track and fuel marker provisions that were retired by the C3 marine final rule. Reinstatement and expansion of these provisions would likely place an unacceptable burden on a large number of stakeholders, most of whom would not handle 500 ppm LM. The suggested alternative enforcement mechanism would impose minimal additional reporting and recordkeeping burdens only on the parties that produce, handle, and use 500 ppm LM. We believe that this alternative enforcement approach (which we proposed in the NPRM) will meet the Agency's goals of ensuring that the pool of 500 ppm LM is limited to transmix distillate and that 500 ppm LM is not used in sulfur-sensitive emissions control equipment.²²

The compliance assurance provisions that we are finalizing to support the extension of the diesel transmix flexibility outside the NEMA area and Alaska beyond 2014 and the expansion of the flexibility to within the NEMA area are similar to those that were used to support the small refiner flexibilities in Alaska during the phase-in of EPA's diesel sulfur program.²³ In addition to registering as a refiner and certifying that each batch of fuel complies with the fuel quality requirements for 500 ppm LM diesel fuel, producers of 500 ppm transmix distillate product would be required to submit a compliance plan for approval by EPA. This compliance plan would provide details on how the 500 ppm LM would be segregated through to the ultimate consumer and its use limited to the legacy LM fleet. The plan would be required to identify the entities that would handle the fuel and the means of segregation. We believe that it is appropriate to limit the number of entities that would be allowed to handle the fuel between the producer and the ultimate consumer in order to facilitate EPA's compliance assurance

²² See Section IV in today's notice for the summary and analysis of comments.

²³ See 40 CFR 80.554(a)(4).

activities.²⁴ Based on conversations with transmix processors, we believe that specifying that no more than 4 separate entities handle the fuel between the producer and the ultimate consumer would not hinder the ability to distribute the fuel.²⁵ The plan would need to identify the ultimate consumers and include information on how the product would be prevented from being used in sulfur-sensitive equipment.

We understand that some transmix processors currently rely on shipment by pipeline to reach the 500 ppm locomotive diesel market.²⁶ As a result, the regulations allow 500 ppm LM to be shipped by pipeline provided that it does not come into contact with distillate products that have a sulfur content greater than 15 ppm. The compliance plan would need to include information from the pipeline operator regarding how this segregation would be maintained. Discussions with transmix processors indicate that this requirement would not limit their ability to ship 500 ppm LM by pipeline. If 500 ppm LM was shipped by pipeline abutting 15 ppm diesel, the volume of 500 ppm LM delivered would likely be slightly greater than that which was introduced into the pipeline as a consequence of cutting the pipeline interface between the two fuel batches into the 500 ppm LM batch. This small increase in 500 ppm LM volume would be acceptable.

To provide an additional safeguard to ensure that volume of 500 ppm LM diesel fuel does not swell inappropriately, the volume increase during any single pipeline shipment must be limited to 2 volume percent or less. This limitation on volume swell to

²⁴ An entity is defined as any company that takes custody of 500 ppm LM diesel fuel.

²⁵ In most cases, fewer entities would take custody of the product. In many cases, only a single entity (a tank truck operator) would be in the distribution chain between the transmix processor and the ultimate consumer. However, we understand that as many as 4 separate entities may handle the product between the producer and ultimate consumer if it is shipped by pipeline: the tank truck operator to ship the product from the producer to the pipeline, the pipeline operator, the product terminal that receives the fuel from the pipeline, and another tank truck operator to ship the product to the ultimate consumer from the terminal.

²⁶ 500 ppm LM diesel fuel is shipped by a short dedicated pipeline from a product terminal to a locomotive refueling facility.

2 volume percent or less is consistent with the limitation in 40 CFR 80.599 (b)(5) regarding the allowed swell in volume during the shipment of highway diesel fuel for the purposes of the determination of compliance with the now expired volume balance requirements under 40 CFR 80.598(b)(9)(vii)(B). Industry did not object to this requirement, and therefore, we believe that limiting the volume swell of 500 ppm LM diesel fuel during shipment by pipeline to 2 volume percent or less should provide sufficient flexibility.

Product transfer documents (PTDs) for 500 ppm LM diesel are required to indicate that the fuel must be distributed in compliance with the approved compliance assurance plan. Entities in the distribution chain for 500 ppm LM diesel fuel are required to keep records on the volumes of the 500 ppm that they receive from and deliver to each other entity. Based on input from fuel distributors, keeping these records will be a minimal additional burden, as discussed in section IV. Such entities are also required to keep records on how the fuel was transported and segregated. We would typically expect that the volumes of 500 ppm LM delivered would be equal to or less than those received unless shipment by pipeline occurred. Some minimal increase in 500 ppm LM volume would be acceptable due to differences in temperature between when the shipped and received volumes were measured and interface cuts during shipment by pipeline. Entities that handle 500 ppm LM are required to calculate a balance of 500 ppm LM received versus delivered/used on an annual basis. If the volume of fuel delivered/dispensed is greater than that received, EPA would expect that the records would indicate the cause. If an entity's evaluation of their receipts and deliveries of 500 ppm LM fuel indicated noncompliance with the product segregation requirements, the custodian would be

required to notify EPA. All entities in the 500 ppm LM distribution chain are required to maintain the specified records for 5 years and provide them to EPA upon request.

IV. Summary and Analysis of Comments

Need for the Proposed Flexibility

Comments from transmix processors and pipeline operators support allowing 500 ppm diesel fuel to be produced from transmix for use in older LM engines outside of the NEMA area and Alaska after 2014, and the expansion of this flexibility to within the NEMA area. These commenters stated that access to the 500 ppm LM market is critical due to the limited alternative markets for transmix distillate product and the need for such a market to maintain the flow of products through pipelines. Some transmix processors stated that the C3 marine market is not a viable outlet for their distillate product due to the long shipping distances and limited ability of many C3 terminals to receive shipments by tank truck. Transmix processors and pipeline operators stated that there would be significant negative consequences if they were not allowed additional time to produce 500 ppm LM diesel fuel. Some transmix processors stated that their only alternative may be to shut down. In such a case, transmix would need to be trucked long distance to refineries for reprocessing. They also stated that pipelines could be in jeopardy of shutting down if transmix could not be cleared in a timely manner from storage facilities in the system. They noted that this could result in disruptions to the fuel supply. One pipeline operator and transmix processor stated that lack of access to the 500 ppm LM market for transmix distillate product could create barriers to the continued shipment of

jet fuel (with sulfur content as high as 3000 ppm) by pipeline. This is because jet fuel is the only high sulfur product shipped by the pipeline operator, and if the operator bars jet fuel from its system the pipeline's transmix processors may be able to produce distillate product that meets a 15 ppm sulfur specification. If the pipeline operator were able to produce a 15 ppm sulfur transmix distillate product, the pipeline's transmix processing facilities would no longer need to use the 500-ppm LM transmix flexibility, since the fuel could readily be sold into the highway and NRLM markets. The commenter stated, however, that eliminating jet fuel transportation by pipeline would increase transport-related emissions, costs, and safety risks of alternative transportation of jet fuel.

Response

We agree with comments that transmix processors, pipelines, and the fuel distribution system as a whole need additional time to produce 500 ppm LM diesel fuel from transmix. Providing additional time will help avoid potential fuel supply disruptions and reduce the overall burden of EPA's diesel sulfur program as transmix processors and pipeline operators adjust to the continued reduction in outlets for >15ppm diesel fuel.

The 500-ppm LM transmix flexibility that was originally included in the diesel program was necessary to allow the ULSD program to be feasibly implemented and enable the large national emissions reductions that it provided. The C3 final rule discontinued the 500-ppm LM flexibility because the information available to us at the time indicated that this would not have a significant negative impact on the handling of transmix in the distribution system. We also believed at the time that continuing the flexibility after 2014 would unacceptably increase compliance burdens given the

introduction of C3 marine fuel. Since that time, we received input from transmix processors and pipeline operators that discontinuing this flexibility could have substantial negative impacts on their operations and the fuel distribution system as a whole. We have also been able to develop an alternative enforcement mechanism contained in this final rule which can effectively control the production and distribution of 500 ppm LM from transmix while resulting in a minimal compliance burden. Had we had this information when the C3 rule was finalized, we would not have discontinued the 500-ppm transmix flexibility in the C3 marine final rule.

Expansion of the Proposed Flexibility to Within the NEMA Area

Commenters who support expanding the transmix flexibility to the NEMA area stated that the ability to market transmix distillate product as heating oil is being progressively reduced by the adoption by states of a 15 ppm sulfur standard for heating oil. They claim that not allowing the use of 500 ppm LM in the NEMA area creates significant costs and transportation overhead, and complexity, as well as increased transportation-related emissions, to move the fuel outside the area. One pipeline stated that some of the largest volume processors are located in the NEMA area.

Response

When we finalized the original transmix flexibility, we concluded that the heating oil market would provide a sufficient outlet for transmix distillate product within the NEMA area. This allowed us to not extend the 500ppm LM transmix flexibility to within the NEMA area at the time, which allowed us to avoid imposing the marker provisions in the NEMA. Since that time, several states in the NEMA area have begun implementing a

15 ppm sulfur standard for heating oil, which is substantially limiting the ability to market transmix distillate product as heating oil. Given this development and the availability of an appropriate enforcement mechanism for use in the NEMA area, the same rationale that supports the need for reinstating the transmix flexibility inside the NEMA areas applies for expanding it outside of the NEMA area. Not only is it costly and inefficient to ship transmix outside of the NEMA area, but if no suitable market can be found the distribution of fuel to the NEMA area could be severely constrained. This would be particularly a concern during times when the market is already experiencing disruptions (e.g., following hurricanes).

Duration of the Flexibility

Commenters that supported the proposed flexibility stated that EPA should not set an expiration date for the flexibility at this time. However, the Engine Manufacturers Association (EMA) stated that EPA should commit to review whether to sunset the 500-ppm provisions as part of any future rulemaking associated with either heating oil or the C3 marine sulfur requirements.

Response

We acknowledge that it is unclear when turnover of the LM fleet to equipment that requires 15 ppm fuel will render the 500-ppm LM transmix flexibility no longer useful. We agree that EPA should consider removing the flexibility when it appears that it no longer serves a purpose. However, we do not believe that it is appropriate or necessary to commit to a specific timeline when such a review will take place. LM equipment lasts for many years, and the location of such older equipment in relation to

the transmix facilities will have to factor into any consideration of whether the provision remains to be useful. EPA will continue to monitor fleet turn over and stakeholder perceptions regarding when it would be appropriate to retire the 500-ppm LM transmix flexibility.

Compliance Assurance

Commenters that supported the proposal stated that the same enforcement mechanisms proposed for use outside the NEMA area and Alaska could be applied within the NEMA area.

EMA stated that although they did not object to the adoption of the envisioned transmix flexibility, they have concerns about its implementation. EMA stated that it was concerned that its members could experience increased in-use emissions compliance liability associated with misfueling equipment which requires the use of 15 ppm sulfur diesel fuel. EMA stated that EPA should shield engine manufacturers, vehicles, and equipment that require 15 ppm diesel from potential liability resulting from defect reporting, emissions warranty obligations, and emission-recall requirements arising from, or in connection with misfueling with 500 ppm diesel.

EMA stated that sufficient infrastructure must be in place to segregate 500 ppm from 15 ppm and sufficient training of parties that handle 500 ppm must be conducted. EMA further stated that if the required infrastructure and training are not in place, then only 15 ppm diesel fuel should be allowed. EMA stated that 500 ppm LM must be identified and tracked to help ensure that it is only used only in engines that do not require 15 ppm diesel fuel. EMA also stated that the SY-124 marker should be used to

identify 500 ppm LM diesel to help prevent misfueling. EMA stated that EPA should eliminate the incentive to misfuel by eliminating the accessibility and/or potential financial benefit of using higher sulfur fuels.

EMA stated that EPA should ensure adequate review and approval of transmix fuel distribution compliance plans to assure the availability of 15 ppm diesel fuel for those engines that need it. EMA states that compliance plan approval documents should include information regarding enforcement penalties associated with misfueling.

Response

We believe that the enforcement mechanisms we are finalizing will provide an appropriate level of assurance that 500 ppm LM will not infiltrate the 15 ppm diesel fuel distribution system and not be used to misfuel engines which require the use of 15 ppm fuel. The compliance plan required to be submitted by producers of 500 ppm LM will provide details on how 500 ppm LM will be segregated through to the ultimate consumer and that its use is limited to the legacy LM fleet. The compliance plan must demonstrate that the end users of 500 ppm LM will also have access to 15 ppm diesel fuel for use in those engines that require the use of 15 ppm diesel fuel.

The compliance plan is required to identify the entities that will handle the fuel and the means of segregation. The product transfer documents for 500 ppm LM that are required to be retained by all parties in the fuel distribution system will provide information on the use restrictions for the fuel. EPA approvals of compliance plans will include information regarding the enforcement penalties associated with misfueling. Given the rather limited and contained nature of the refueling infrastructure for LM

applications in comparison to other highway and nonroad diesel applications, we believe these provisions will be entirely feasible and sufficient.

We do not believe that requiring the use of the SY 124 marker in 500 ppm LM after 2014 would be useful in helping to prevent the misfueling of engines that require the use of 15 ppm diesel fuel. The SY124 marker is not visible in itself. Hence, its presence would not serve as a visible warning to help deter misfueling. In any event, parties do not typically see the fuel as it is being dispensed into a fuel tank. Given that an analytical test would be required to detect the marker, it is more appropriate to test the sulfur content of the fuel. The SY 124 marker requirements for 500 ppm LM diesel fuel that were effective from June 1, 2010 through May 31, 2012, were put in place to help ensure that 500 ppm LM from larger refiners did not inappropriately shift into the limited 500 ppm NR diesel fuel pool from small refiners, credit users, and transmix processors. These marker requirements were discontinued because 500 ppm LM could no longer be produced by larger refiners after May 31, 2012. The marker requirements for 500 ppm LM were never intended to help prevent the misfueling of LM equipment that requires the use of 15 ppm diesel fuel with 500 ppm LM.

We disagree with EMA's comments that EPA should take additional actions to shield engine manufacturers, vehicles, and equipment that require 15 ppm diesel from potential liability resulting from defect reporting, emissions warranty obligations, and emission-recall requirements arising from, or in connection with misfueling with 500ppm diesel. EPA has a long history of including flexibilities in its diesel program to allow the limited use of higher sulfur fuels in older vehicles and equipment that are not sulfur sensitive. The mechanisms designed to assign culpability and the consequences for

misfueling are long established and are functioning adequately. Hence, we believe that providing such a blanket waiver of liability is neither necessary nor appropriate.

Emission Impacts

Transmix processors stated that EPA significantly underestimated the potential increase in emissions from additional truck transport of transmix distillate product if the envisioned flexibility is not finalized. One transmix processor in the NEMA area stated that they are currently shipping their transmix distillate product over 800 miles to find a market, greatly exceeding the 150 miles assumed by EPA in its analysis. They also noted the sulfur content for transmix distillate product is often in the range of 100 to 200 ppm, which is substantially lower than the assumed average sulfur content in EPA's emissions analysis. They stated that EPA underestimated the environmental benefits of implementation of the proposed transmix flexibility by at least 40%.

A comment from a private individual was opposed to extending the date beyond which 500 ppm LM diesel fuel could be sold. This commenter stated that although the envisioned transmix flexibility might be environmentally beneficial on a national basis, the emissions would shift from one locale to another, affecting different people. The commenter stated that extending the use of 500 ppm LM would have substantial adverse health effects. The commenter stated that five minute exposures to sulfur dioxide, which is produced from sulfur in diesel when it is combusted, can trigger asthma attacks, which can be fatal. In addition, the commenter stated that relatively short term exposures to PM_{2.5}, which is also produced from combustion of diesel, can have adverse health impacts including death.

Response

The Agency is very concerned about the localized impacts of emissions. However, we do not believe that there are potential localized impacts from the transmix flexibility that warrant not finalizing this action. In addition, not finalizing this action would subject the fuel distribution system to the disruption and burden resulting from the absence of sufficient flexibility for disposal of diesel transmix. The commenter states that the transmix flexibility will result in a shift of emissions from one area to another. Under the scenario we evaluated, we note that NO_x, VOC, PM, SO₂, CO, and toxics emissions will be avoided on our roadways by avoiding the need to transport transmix distillate product by truck to distant markets or transmix to refinery processing facilities, while at the same time sulfate PM and SO₂ emissions may be increased slightly from the locomotive and marine applications along our rail lines and waterways where the transmix distillate is burned.²⁷ In the case of both the small emissions increases and decreases, these emissions impacts will be distributed over the broad areas where such equipment operates. The small changes in emission levels are expected to have very minimal effect on pollutant concentrations in any particular area. The increased concentrations resulting from these changes are likely to be overwhelmingly offset by the significant decreases in pollutant emissions (as a result of the ULSD program) in areas dominated by diesel engine sources, such as locations downwind of marine ports and rail lines. Studies in those locations report peak SO₂ concentrations below the National Ambient Air Quality Standard for SO₂ and well below the level at which respiratory

²⁷ See Section III.C in today's rule for a discussion of the emissions effects of the transmix flexibility.

symptoms are observed in some individuals with asthma.^{28,29} Furthermore, the diesel transmix flexibility, as in the original Nonroad, Locomotive, and Marine diesel final rulemaking was necessary to allow the distribution system to function while providing ULSD product. Without it the emission benefits of the ULSD program could not be achieved. When the diesel transmix provisions are viewed in light of the broader ULSD regulations of which they are a part, EPA is confident that any small increase in local SO₂ or PM emissions from the burning of transmix will be more than offset by the overall emissions reductions resulting from EPA's ULSD program.³⁰ Thus, even in areas where this transmix distillate product will be burned, the clean diesel program will be providing very large emission benefits. As the locomotive and marine engines fleet progressively turns over to engines that require the use of 15 ppm diesel fuel, the use of 500 ppm LM will gradually diminish and eventually disappear. EPA intends to evaluate in a later action when the 500-ppm LM flexibility is no longer useful and should be retired.

The generation of transmix is a necessary consequence of the transportation of the cleaner fuel required by those regulations within the current fuel transportation system, and allowing it to be utilized in nearby locomotive and marine diesel applications is preferable to subjecting the market to supply disruptions or at a minimum requiring further transportation of fuel through methods that would increase transportation-related emissions.

²⁸ Ault, A.P.; Gaston, C.J.; Wang, Y.; Dominguez, G.; Thiemens, M.H.; Prather, K.A. (2010) Characterization of the single particle mixing state of individual ship plume events measured at the Port of Los Angeles. *Environ Sci Technol* 44: 1954-1961.

²⁹ Vutukuru, S.; Dabdub, D. (2008) Modeling the effects of ship emissions on coastal air quality: a case study of southern California. *Atmos Environ* 42: 3751-3764.

³⁰ See Section III.C. of today's notice for a discussion of the small emissions effects of the transmix flexibility in comparison to the emissions benefits from the ULSD program.

Due Process

A private individual stated that although extending the date beyond which 500 ppm LM diesel fuel could be sold may be environmentally beneficial on a national basis, the shift of emissions from one locale to another associated with the flexibility means that the pollution will affect different people. The commenter stated that such a shift in emissions is unconstitutional, claiming it violates both substantive and procedural due process. The commenter stated that procedural due process requires more notice than a direct final rule in the federal register, which the commenter states almost no one reads. Moreover, the commenter states that substantive due process does not allow the federal government to authorize the killing of U.S. citizens for the “convenience” of a small group of corporations that own transmix processing facilities.

Response

We disagree with the comment that EPA’s action is not constitutional by violating substantive due process. The commenter makes no attempt to justify the statement that EPA is violating substantive due process, and provides no legal support for such a statement. EPA is acting well within its authority under Title II of the Clean Air Act to develop and implement a diesel fuel program. Obviously, EPA is not authorizing the killing of U.S. citizens, and, as discussed above, the clean diesel program, which this final rule supports, actually reduces harmful emissions from diesel engines.

We further disagree that EPA has not provided sufficient procedural due process. EPA published a proposed rule in parallel with the direct final rule that was withdrawn due to a negative comment. EPA’s publication of proposed rules in the Federal Register

follows the procedure laid out in the Clean Air Act and provides adequate legal notice under the Federal Register Act. Publication of proposed EPA rules in the Federal Register has been the normal method of providing notice for decades, and those wishing to know of EPA proposals are best served if EPA continues to use this approach consistently. EPA is taking this final action based on our consideration of the comments received on that proposed rule.

Effect of Rule on Analyses Under Other Laws

A private individual stated that the proposed regulatory change would adversely impact many analyses under the National Environmental Policy Act (NEPA), State NEPAs, the Endangered Species Act, the National Historic Preservation Act, and various State laws which have assumed the use of 15 ppm sulfur LM diesel fuel. The comment claims that many of these analyses assume that 15 ppm sulfur will be used in locomotives and marine engines outside of NEMA and that the analyses will be incorrect. As an example, the commenter states that the Environmental Report for the proposed Amber Energy coal transferring facility at Port Morrow, Oregon, assumes that the locomotives and tugs will use 15 ppm sulfur diesel fuel. The commenter states that if EPA approves this rule, that analysis will be wrong.

Another commenter representing transmix facilities, responding to the previous commenter, stated that the previous comment was general and unsupported and pointed to no specific analysis where 15 ppm sulfur is assumed, nor did it quantify any net reductions in air pollution that would occur. The commenter also stated that the previous commenter did not reference analytical assumptions or whether any analysis is based on

use of 15 ppm sulfur in engines not otherwise required to use such fuel. The commenter notes that CAA rulemakings are exempt from NEPA and states that the previous commenter does not identify a specific nexus between the regulatory action and the Endangered Species Act or the National Historic Preservation Act. The commenter also states that in the specific example provided in the earlier comment, the facility mentioned is currently at the proposal stage and a decision has been made to conduct an Environmental Assessment for the facility under NEPA. The commenter stated that they believe that no final regulatory analysis has been completed that is dependent on the use of 15 ppm sulfur diesel.

Response

EPA believes it is unlikely that the use of limited volumes of 500 ppm diesel fuel produced from transmix would have a substantial effect on NEPA or other analyses, or that it would even be possible to predict what volumes of such fuel would be used in a specific local area, for the purposes of such an analysis. As discussed in section III.C., EPA's analysis of the potential emission impacts nationwide shows no significant impacts. Given the relatively small volume of diesel fuel produced by transmix compared to the total volume of diesel fuel used in locomotives or marine engines, it is unlikely that any single NEPA analysis would reach different conclusions. However, EPA notes that both NEPA and the Endangered Species Act, at a minimum, provide for reconsideration of significant new information where appropriate. To the extent that any analysis may have assumed the use of 15 ppm sulfur LM diesel fuel, it may be appropriate to review the analysis to determine whether any effect resulting from potential use of limited volumes of 500 ppm diesel fuel produced from transmix should

be considered. As the second commenter notes, it is not clear that any final regulatory analysis has depended on use of 15 ppm LM diesel fuel and would be affected by this final rule. The use of such fuel may occur for reasons unrelated to this rule, such as an agreement that newer locomotives would be used in connection with the project.

EPA also agrees with the second commenter that actions under the CAA are not subject to NEPA and that the initial commenter has provided no context or support for his allegations regarding any nexus between this action and analysis under the NEPA, the Endangered Species Act, the National Historic Preservation Act, or the “various State laws” referred to without citation by that commenter. In any case, as EPA notes above, the factual circumstances for this rule do not indicate any significant effect on any air pollution concentrations, and the commenter provides no information regarding the effect of this rule on interests affected by the other statutes.

Regulations Related to the Production of 500 ppm from Transmix by Pipeline Operators

A pipeline operator stated that the current rulemaking does not provide certainty that pipelines can produce 500 ppm LM diesel and distribute that fuel to their customers without requiring the transmix to be moved to or through transmix processor facilities.

Response

Pipeline processors produce 500 ppm LM from the interface mixture between batches of ULSD and higher sulfur distillates (i.e. jet fuel and heating oil). The production of such 500 ppm fuel by pipeline operators does not require the use of a distillation tower used by transmix processors to separate gasoline from distillate fuel.

We agree that the regulations should be amended to provide clarity that pipeline operators as well as transmix processors can produce 500 ppm LM from transmix. This was EPA's intent when the original 500 ppm LM transmix flexibility was finalized in the nonroad diesel rulemaking and has been EPA's policy since. However, the regulatory text was primarily focused on the production of 500 ppm LM by transmix processors.

V. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order (EO) 12866 (58 FR 51735 (October 4, 1993)), this action is not a "significant regulatory action." Accordingly, the Office of Management and Budget (OMB) waived review of this action under Executive Orders 12866 and 13563 (76 FR 3821 (January 21, 2011)).

B. Paperwork Reduction Act

The information collection requirements in this rule will be submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. The information collection requirements are not enforceable until OMB approves them.

The reporting requirements apply to transmix processors and pipeline operators who produce diesel fuel from transmix (all of whom are refiners) and other parties (such as carriers or distributors) in the distribution chain who handle diesel fuel produced from transmix. The collected data will permit EPA to: (1) Process compliance plans from

producers of diesel fuel from transmix; and (2) Ensure that diesel fuel made from transmix meets the standards required under the regulations at 40 CFR Part 80, and that the associated benefits to human health and the environment are realized. We estimate that 25 producers of diesel fuel from transmix and 150 other parties may be subject to the proposed information collection. We estimate an annual reporting burden of 28 hours per producer of diesel fuel from transmix (respondent) and 8 hours per other party (respondent); considering all respondents (producers of diesel fuel from transmix and other parties) who would be subject to the proposed information collection, the annual reporting burden, per respondent, would be 11 hours. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review the instructions; develop, acquire, install, and utilize technology and systems for the purpose of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transit or otherwise disclose the information. Burden is as defined at 5 CFR 1320.3(b).

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to

40 CFR part 9 in the Federal Register to display the OMB control number for the approved information collection requirements contained in this final rule.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this action on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This final rule will not impose any new requirements on small entities. The amendments to the diesel transmix provisions would lessen the regulatory burden on all affected transmix processors and provide a source of lower cost locomotive and marine diesel fuel to consumers.

D. Unfunded Mandates Reform Act

This rule does not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. We have determined that this action will not result in expenditures of \$100 million or more for the above parties and thus, this rule is not subject to the requirements of sections 202 or 205 of the Unfunded Mandates Reform Act (UMRA).

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. It only applies to diesel fuel producers, distributors, and marketers and makes relatively minor modifications to the diesel sulfur regulations.

E. Executive Order 13132 (Federalism)

This action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. This action only applies to diesel fuel producers, distributors, and marketers and makes relatively minor modifications to the diesel sulfur regulations. Thus, Executive Order 13132 does not apply to this action.

F. Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments)

This rule does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249 (November 9, 2000)). It applies to diesel fuel producers, distributors, and marketers. This action makes relatively minor modifications to the diesel sulfur regulations, and does not impose any enforceable duties on communities of Indian tribal governments. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

EPA interprets EO 13045 (62 FR 19885 (April 23, 1997)) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the EO has the potential to influence the regulation. This action is not subject to EO 13045 because it does not establish an environmental standard intended to mitigate health or safety risks.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (“NTTAA”), Public Law 104–113, 12(d) (15 U.S.C. § 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so will be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures,

and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not involve technical standards. Therefore, EPA did not consider the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order (EO) 12898 (59 FR 7629 (Feb. 16, 1994)) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations. In the case of both the small emissions increases and decreases, these emissions impacts will be distributed over the broad areas where such equipment operates. The small changes in emission levels are expected to have very minimal effect on pollutant concentrations in any particular area.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et. seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the *Federal Register*. A major rule cannot take effect until 60 days after it is published in the *Federal Register*. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

VI. Statutory Provisions and Legal Authority

Statutory authority for the rule finalized today can be found in Section 211 of the Clean Air Act, 42 U.S.C. 7545. Additional support for the procedural and compliance related aspects of today’s rule, including the recordkeeping requirements, come from sections 114, 208, and 301(a) of the Clean Air Act, 42 U.S.C. 7414, 7542, and 7601(a).

List of Subjects in 40 CFR Part 80

Environmental protection, Administrative practice and procedure, Air pollution control, Confidential business information, Diesel Fuel, Transmix, Energy, Labeling, Motor vehicle pollution, Penalties, Petroleum, Reporting and recordkeeping requirements.

Dated: December 14, 2012.

Lisa P. Jackson,
Administrator.

For the reasons set forth in the preamble, 40 CFR part 80 is amended as follows:

PART 80—REGULATION OF FUELS AND FUEL ADDITIVES

1. The authority citation for part 80 is revised to read as follows:

Authority: 42 U.S.C. 7414, 7521, 7542, 7545, and 7601(a).

Subpart I -- Motor Vehicle Diesel Fuel; Nonroad, Locomotive, and Marine Diesel Fuel; and ECA Marine Fuel

2. Section 80.511 is amended by revising paragraph (b)(4) to read as follows:

§ 80.511 What are the per-gallon and marker requirements that apply to NRLM diesel fuel, ECA marine fuel, and heating oil downstream of the refiner or importer?

* * * * *

(b) * * *

(4) Except as provided in paragraphs (b)(5) through (8) of this section, the per-gallon sulfur standard of §80.510(c) shall apply to all NRLM diesel fuel beginning August 1, 2014 for all downstream locations other than retail outlets or wholesale purchaser-consumer facilities, shall apply to all NRLM diesel fuel beginning October 1, 2014 for retail outlets and wholesale purchaser-consumer facilities, and shall apply to all NRLM diesel fuel beginning December 1, 2014 for all locations. This paragraph

(b)(4) does not apply to LM diesel fuel produced from transmix that is sold or intended for sale in areas other than in the area listed in §80.510(g)(2) (i.e. Alaska), as provided by §80.513(f).

* * * * *

3. Section 80.513 is amended as follows:
 - a. By revising the section heading.
 - b. By revising the introductory text.
 - c. By revising paragraphs (d) and (e).
 - d. By adding new paragraphs (f), (g), and (h).

§ 80.513 What provisions apply to transmix processing facilities and pipelines that produce diesel fuel from pipeline interface?

For purposes of this section, transmix means a mixture of finished fuels, such as pipeline interface, that no longer meets the specifications for a fuel that can be used or sold without further processing or handling. For the purposes of this section, pipeline interface means the mixture between different fuels that abut each other during shipment by pipeline. This section applies to refineries (or other facilities) that produce diesel fuel from transmix by distillation or other refining processes but do not produce diesel fuel by processing crude oil and to pipelines that produce diesel fuel from transmix. This section only applies to the volume of diesel fuel produced from transmix by a transmix processor

using these processes, and to the diesel fuel volume produced by a pipeline operator from transmix. This section does not apply to any diesel fuel volume produced by the blending of blendstocks.

* * * * *

(d) From June 1, 2010 through May 31, 2014, NRLM diesel fuel produced by a transmix processor or a pipeline facility that produces diesel fuel from transmix is subject to the standards under § 80.510(a). This paragraph (d) does not apply to NRLM diesel fuel that is sold or intended for sale in the areas listed in § 80.510(g)(1) or (g)(2).

(e) From June 1, 2014 and beyond, NRLM diesel fuel produced by a transmix processor and a pipeline facility that produces diesel fuel from transmix is subject to the standards of § 80.510(c).

(f) From [Insert date 60 days after the publication of this rule] through May 31, 2014, LM diesel fuel produced by a transmix processor or a pipeline facility that produces diesel fuel from transmix that is sold or intended for sale in the area listed in §80.510(g)(1) is subject to the standards of §80.510(a) provided that the conditions in paragraph (h) of this section are satisfied. Diesel fuel produced from transmix that does not meet the conditions in paragraph (h) of this section is subject to the sulfur standard in §80.510(c).

- (g) Beginning June 1, 2014, LM diesel fuel produced by a transmix processor or a pipeline facility that produces diesel fuel from transmix is subject to the sulfur standard of §80.510(a), provided that the conditions in paragraph (h) of this section are satisfied. Diesel fuel produced from transmix that does not meet the conditions in paragraph (h) of this section is subject to the sulfur standard in §80.510(c).
- (h) The following conditions must be satisfied to allow the production of 500 ppm LM under paragraphs (f) and (g) of this section.
- (1) The fuel must be produced from transmix.
 - (2) The fuel must not be sold or intended for sale in the area listed in §80.510(g)(2) (i.e., Alaska).
 - (3) A facility producing 500 ppm LM diesel fuel must obtain approval from the Administrator for a compliance plan. The compliance plan must detail how the facility will segregate any 500 ppm LM diesel fuel produced subject to the standards under §80.510(a) from the producer through to the ultimate consumer from fuel having other designations. The compliance plan must demonstrate that the end users of 500 ppm LM will also have access to 15 ppm diesel fuel for use in those engines that require the use of 15 ppm diesel fuel. The compliance plan must identify the entities that handle the 500 ppm LM through to the ultimate consumer. No more than 4 separate entities shall handle the 500 ppm LM between the producer and the ultimate consumer. The compliance plan must also identify all ultimate consumers to whom the refiner supplies the 500 ppm LM diesel

fuel. The compliance plan must detail how misfueling of 500 ppm LM into vehicles or equipment that require the use of 15 ppm diesel fuel will be prevented.

- (i) Producers of 500 ppm LM diesel fuel must be registered with EPA under §80.597 prior to the distribution of any 500 ppm LM diesel fuel.
- (ii) Producers of 500 ppm LM must initiate a PTD that meets the requirements in paragraph (h)(3)(iii) of this section.
- (iii) All transfers of 500 ppm LM diesel fuel must be accompanied by a PTD that clearly and accurately states the fuel designation; the PTD must also meet all other requirements of §80.590.
- (iv) Batches of 500 ppm LM may be shipped by pipeline provided that such batches do not come into physical contact in the pipeline with batches of other distillate fuel products that have a sulfur content greater than 15 ppm.
- (v) The volume of 500 ppm LM shipped via pipeline under paragraph (h)(3)(iv) of this section may swell by no more than 2 % upon delivery to the next party. Such a volume increase may only be due to volume swell due to temperature differences when the volume was measured or due to normal pipeline interface cutting practices notwithstanding the requirement under paragraph (h)(3)(iv) of this section.

(vi) Entities that handle 500 ppm LM must calculate the balance of 500 ppm LM received versus the volume delivered and used on an annual basis.

(vii) The records required in this section must be maintained for five years, by each entity that handles 500 ppm LM and be made available to EPA upon request.

(4) All parties that take custody of 500 ppm LM must segregate the product from other fuels and observe the other requirements in the compliance plan approved by EPA pursuant to paragraph (h)(3) of this section.

4. Section 80.572 is amended by revising the section heading and paragraph (d) to read as follows:

§ 80.572 What labeling requirements apply to retailers and wholesale purchaser-consumers of Motor Vehicle, NR, LM and NRLM diesel fuel and heating oil beginning June 1, 2010?

* * * * *

(d) From June 1, 2010 through September 30, 2012 and from [Insert date 60 days after the publication of this rule] and thereafter, for pumps dispensing LM diesel fuel subject to the 500 ppm sulfur standard of §80.510(a):

LOW SULFUR LOCOMOTIVE AND MARINE DIESEL FUEL (500 ppm Sulfur
Maximum)

WARNING

Federal law prohibits use in nonroad engines or in highway vehicles or engines.

* * * * *

5. Section 80.597 is amended by adding paragraph (d)(3)(ii) to read as follows:

§ 80.597 What are the registration requirements?

* * * * *

(d) * * *

(3) * * *

(ii) Fuel designated as 500 ppm LM diesel fuel.

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[FR Doc. 2012-30960 Filed 12/21/2012 at 4:15 pm; Publication Date: 12/26/2012]